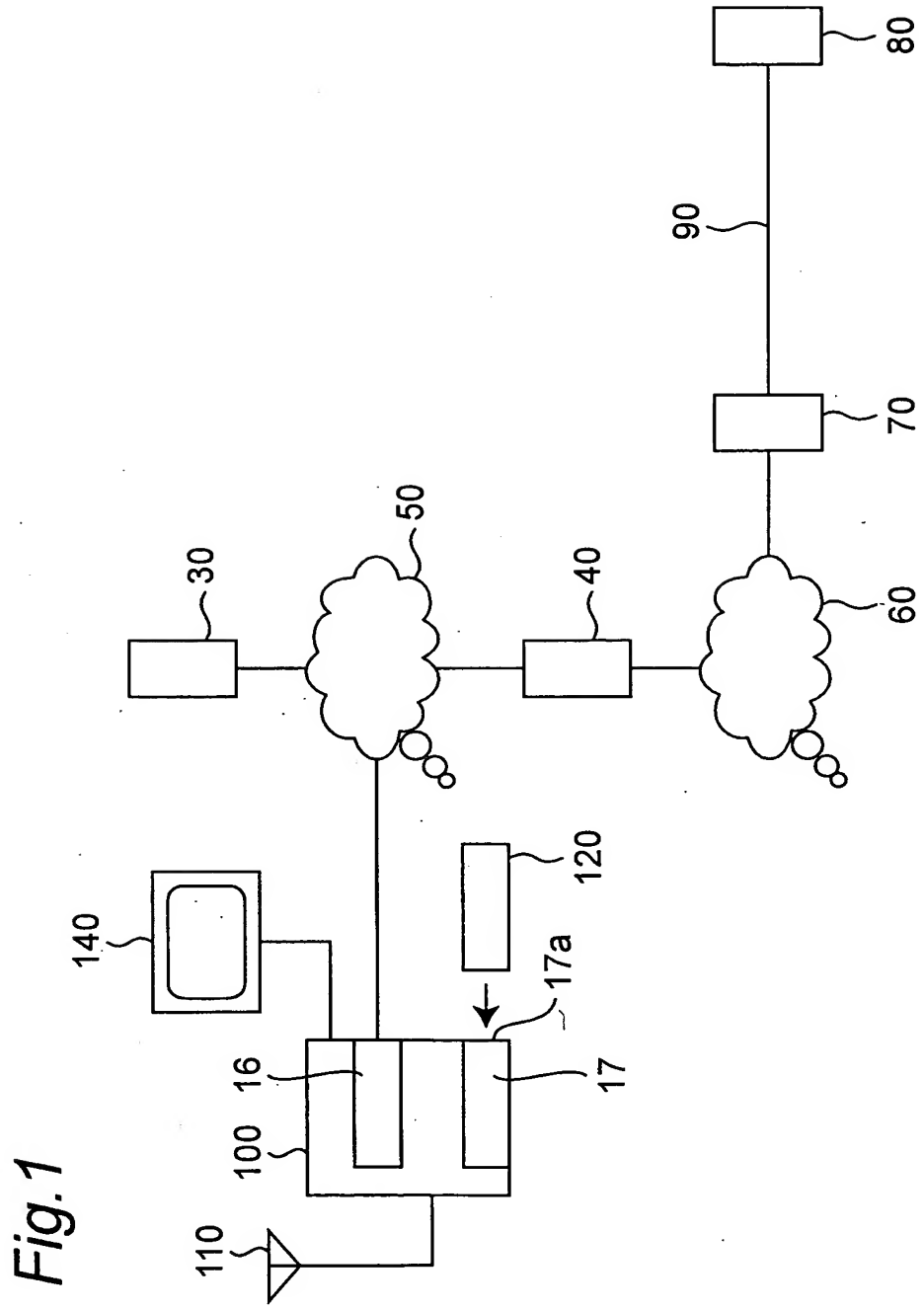


Fig.1

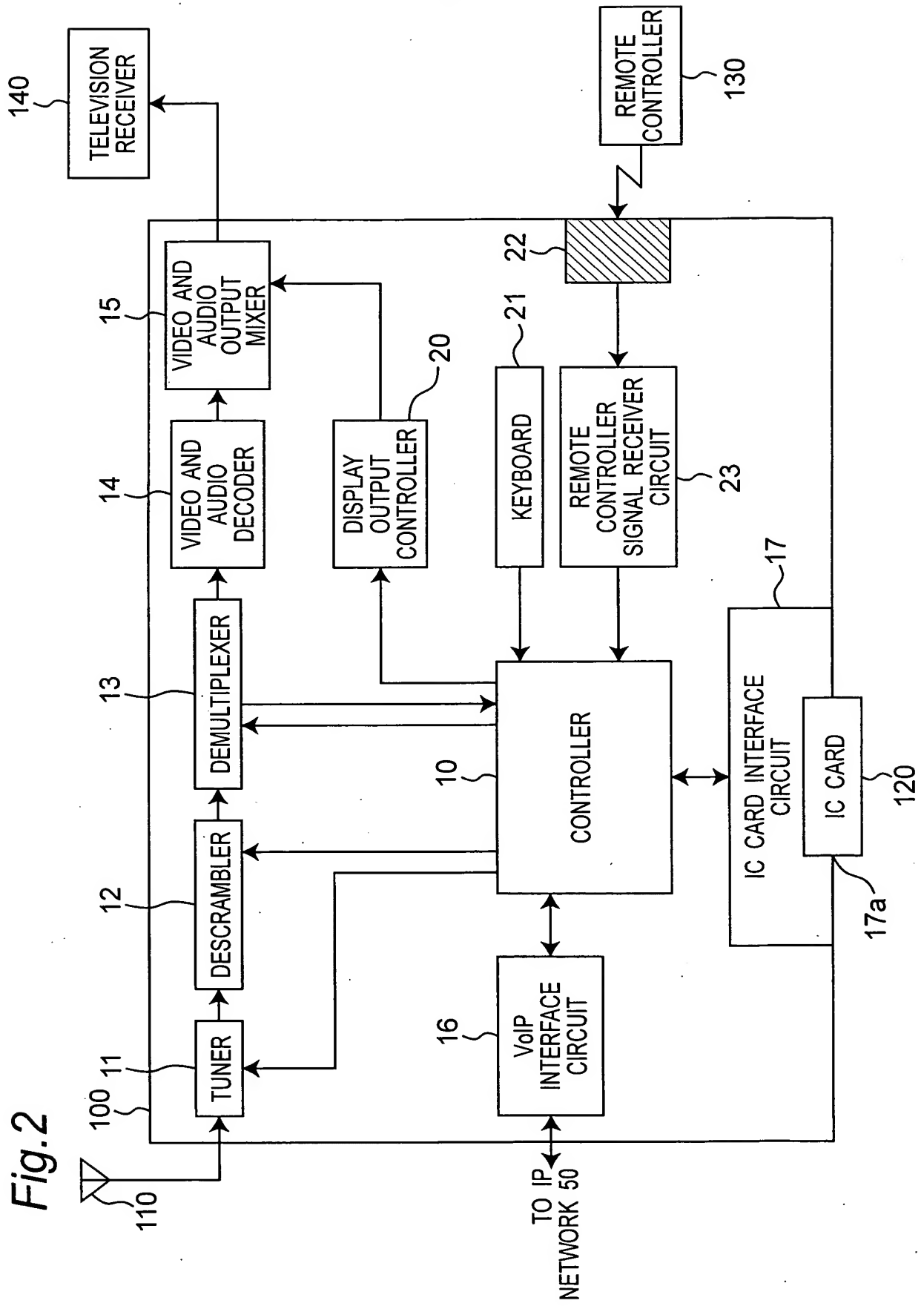

TELEVISION RECEIVER
140
REMOTE CONTROLLER
130
VIDEO AND AUDIO OUTPUT MIXER
15
22
21
20
VIDEO AND AUDIO DECODER
14
DISPLAY OUTPUT CONTROLLER
KEYBOARD
REMOTE CONTROLLER SIGNAL RECEIVER CIRCUIT
23
17
DEMULTIPLEXER
13
CONTROLLER
10
IC CARD INTERFACE CIRCUIT
IC CARD
120
17a
DESCRAMBLER
12
TUNER
11
100
VoIP INTERFACE CIRCUIT
16
110
TO IP NETWORK 50

Fig.2

Fig.3

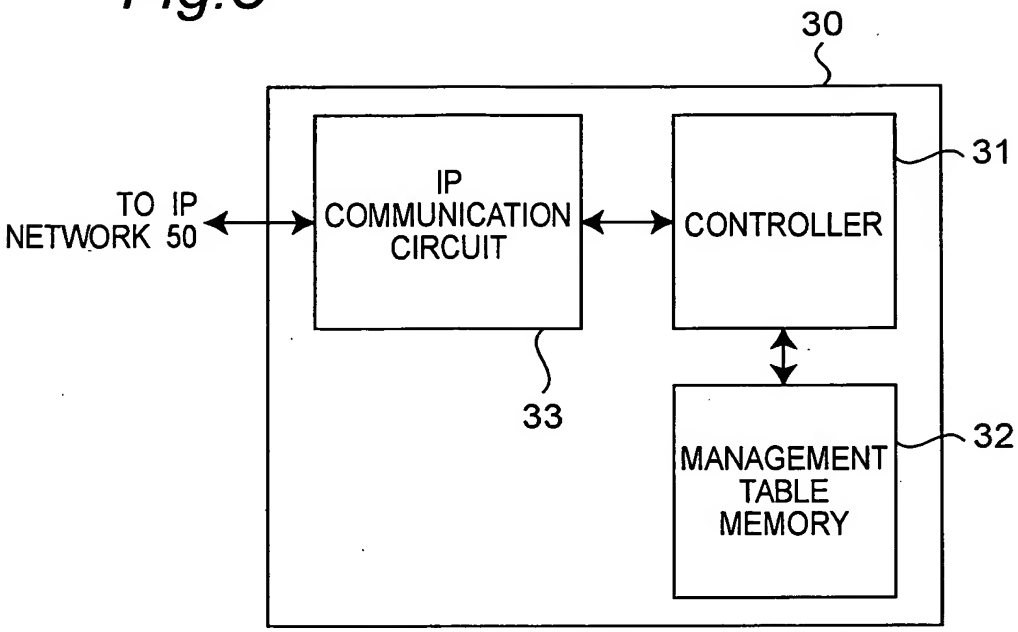

30
TO IP NETWORK 50
IP COMMUNICATION CIRCUIT
CONTROLLER
31
33
MANAGEMENT TABLE MEMORY
32

Fig.4

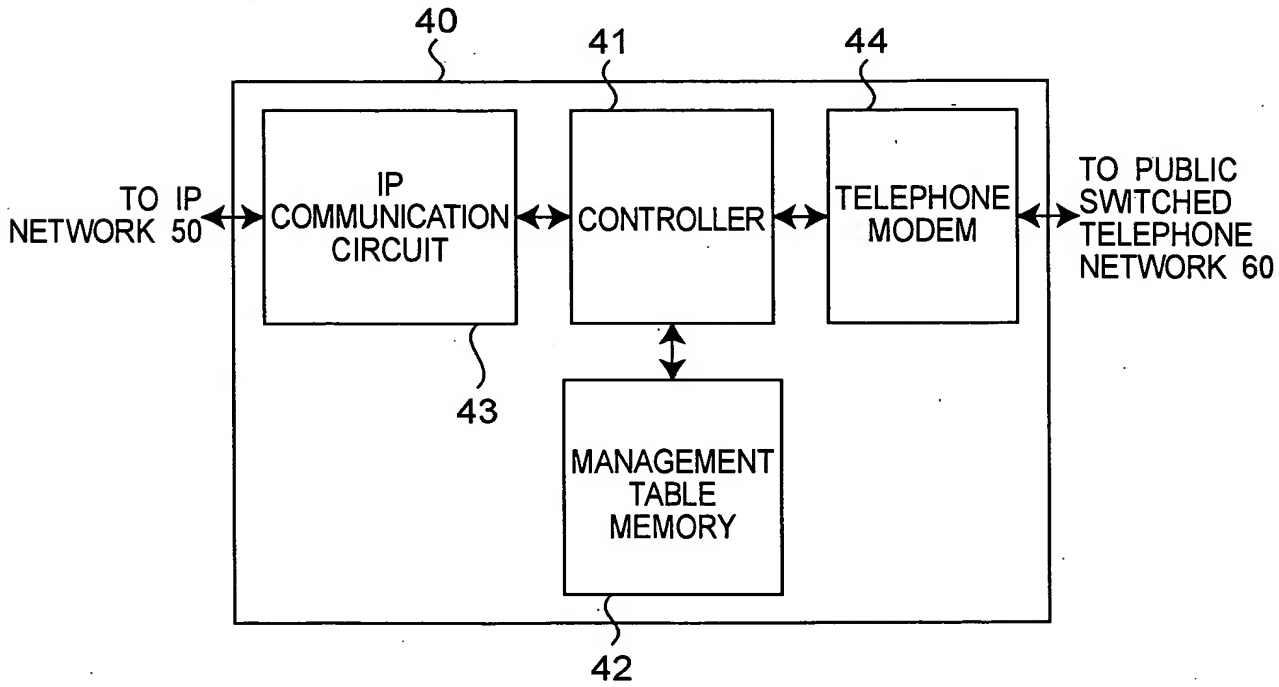

40
41
44
TO IP NETWORK 50
IP COMMUNICATION CIRCUIT
CONTROLLER
TELEPHONE MODEM
TO PUBLIC SWITCHED TELEPHONE NETWORK 60
43
MANAGEMENT TABLE MEMORY
42

Fig.5

32

TELEPHONE NUMBER	URL
ABC-DEF-GHJK	aaa@bbb.ccc
ABD-EFG-HJKL	abc@ddd.com
. . . . .	. . . . .

Fig.6

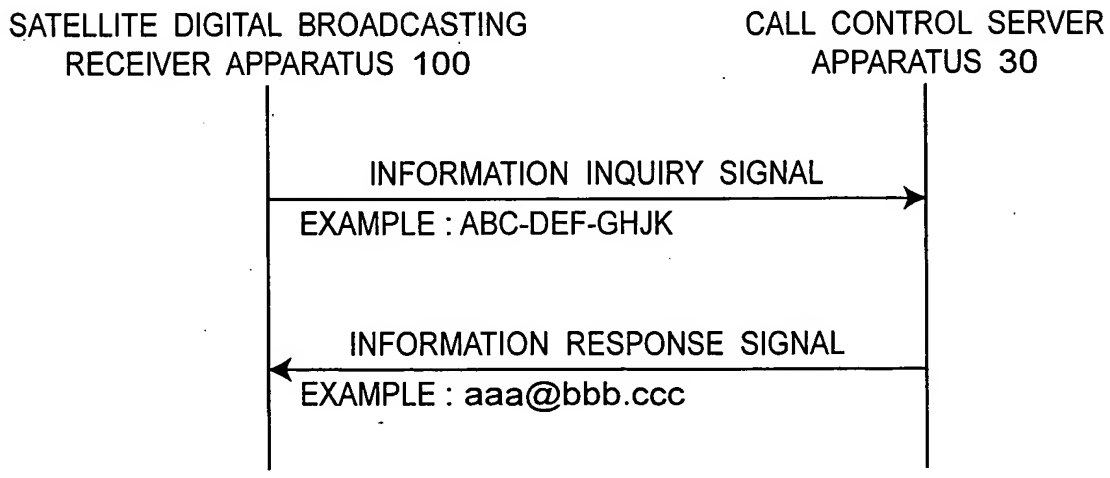


Fig.7

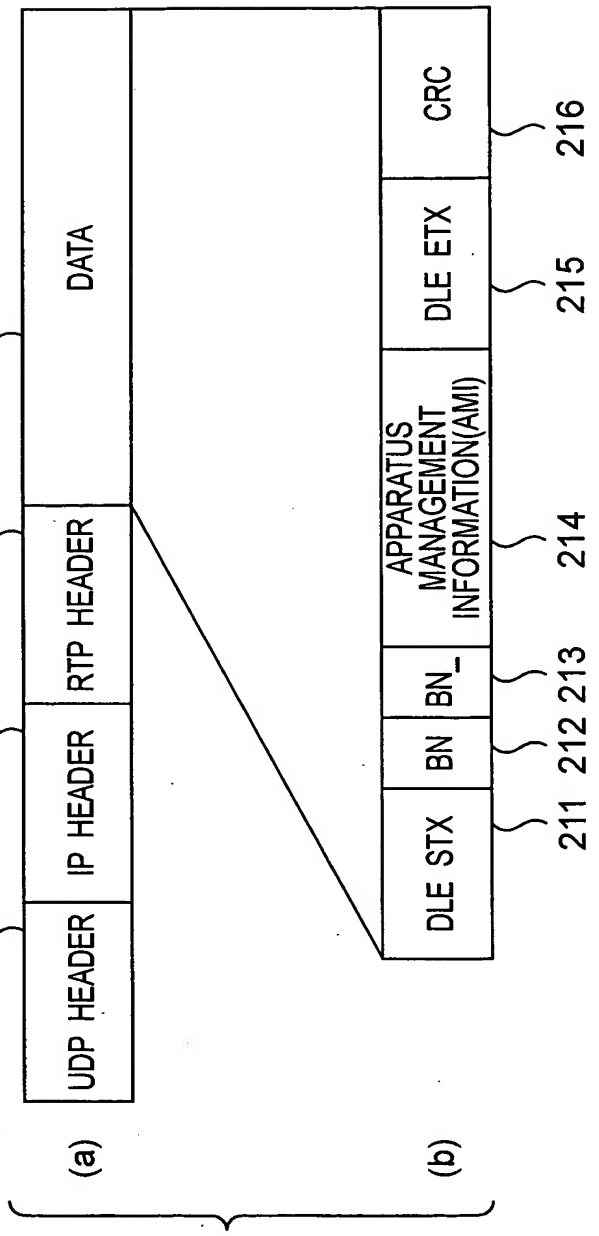
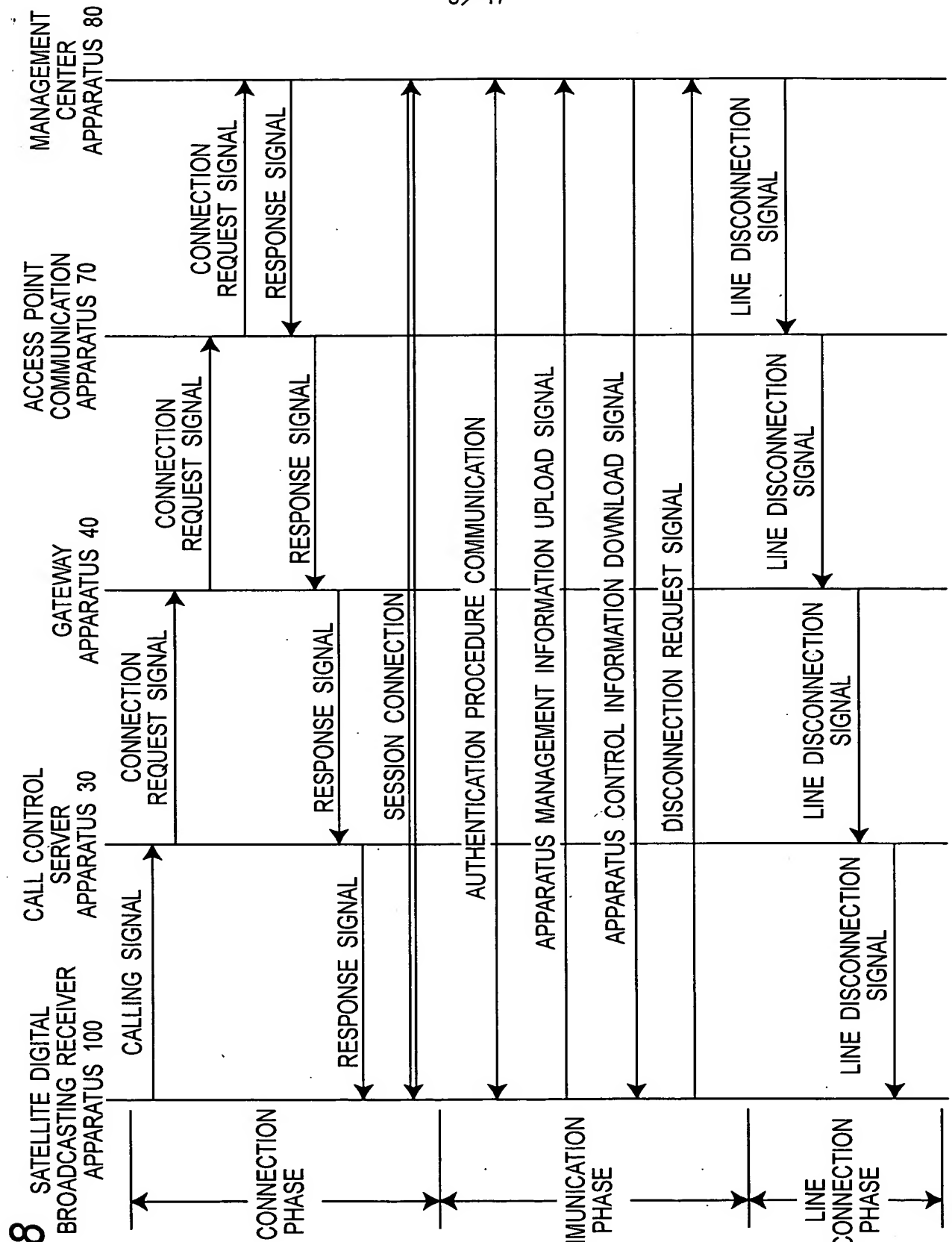

(a)
(b)
UDP HEADER
IP HEADER
RTP HEADER
DATA
DLE STX
BN
BN_
APPARATUS MANAGEMENT INFORMATION(AMI)
DLE ETX
CRC
201
202
203
204
211
212
213
214
215
216

Fig. 8


SATELLITE DIGITAL BROADCASTING RECEIVER APPARATUS 100
CALL CONTROL SERVER APPARATUS 30
GATEWAY APPARATUS 40
ACCESS POINT COMMUNICATION APPARATUS 70
MANAGEMENT CENTER APPARATUS 80
CALLING SIGNAL
CONNECTION REQUEST SIGNAL
CONNECTION REQUEST SIGNAL
CONNECTION REQUEST SIGNAL
RESPONSE SIGNAL
RESPONSE SIGNAL
RESPONSE SIGNAL
RESPONSE SIGNAL
SESSION CONNECTION
AUTHENTICATION PROCEDURE COMMUNICATION
APPARATUS MANAGEMENT INFORMATION UPLOAD SIGNAL
APPARATUS CONTROL INFORMATION DOWNLOAD SIGNAL
DISCONNECTION REQUEST SIGNAL
LINE DISCONNECTION SIGNAL
LINE DISCONNECTION SIGNAL
LINE DISCONNECTION SIGNAL
LINE DISCONNECTION SIGNAL
LINE CONNECTION PHASE
COMMUNICATION PHASE
LINE DISCONNECTION PHASE

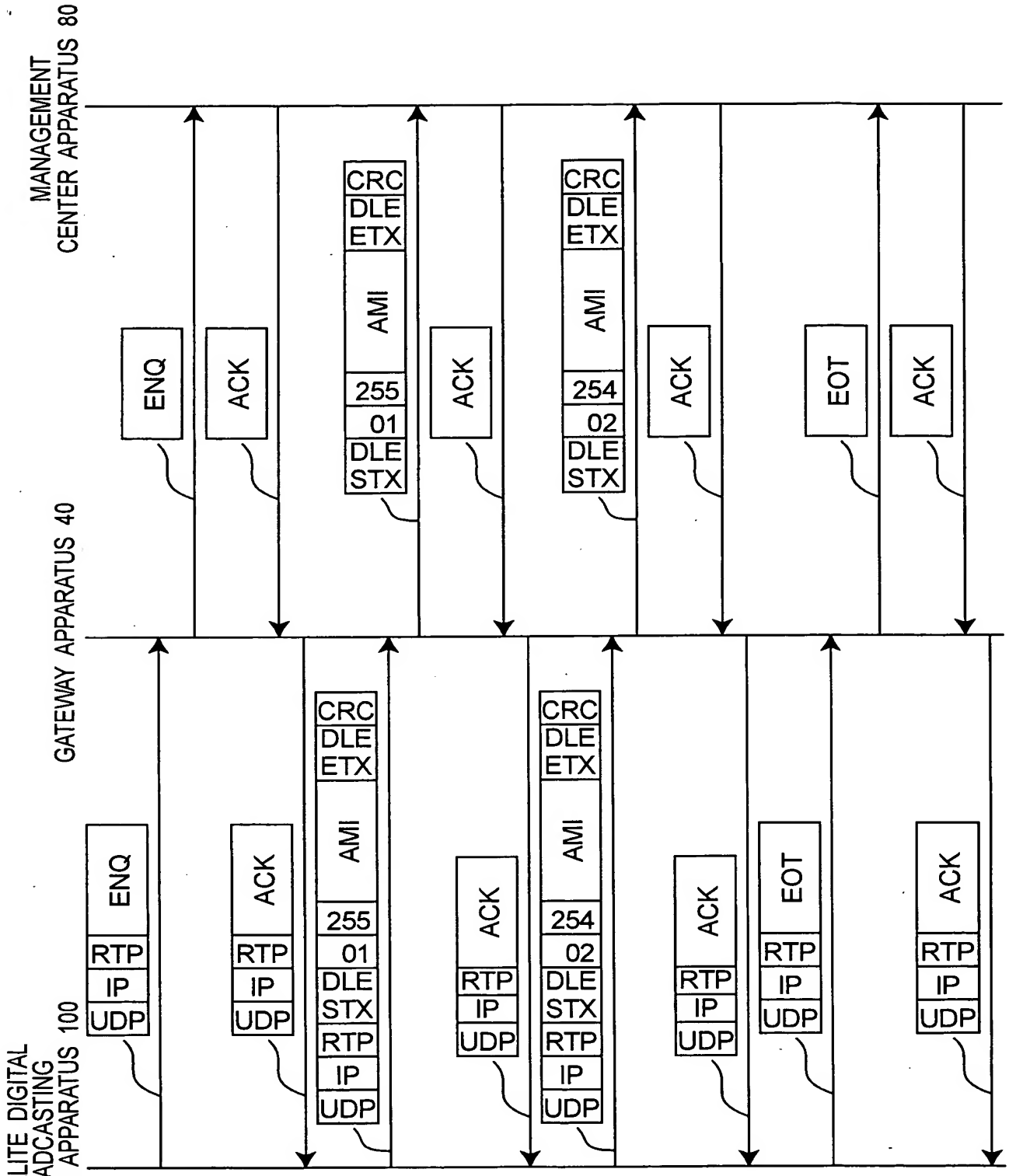

MANAGEMENT CENTER APPARATUS 80
GATEWAY APPARATUS 40
SATELLITE DIGITAL BROADCASTING RECEIVER APPARATUS 100
ENQ
ACK
CRC
DLE
ETX
AMI
255
01
DLE
STX
254
02
EOT
RTP
IP
UDP

Fig. 9

Fig.10

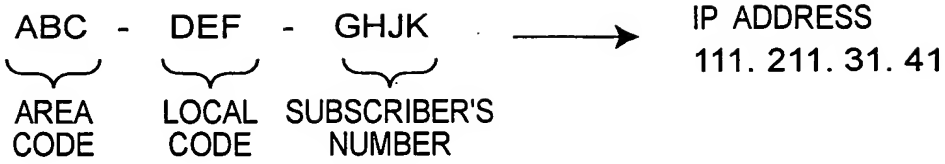

ABC - DEF - GHJK
AREA CODE
LOCAL CODE
SUBSCRIBER'S NUMBER
IP ADDRESS
111. 211. 31. 41

Fig.11

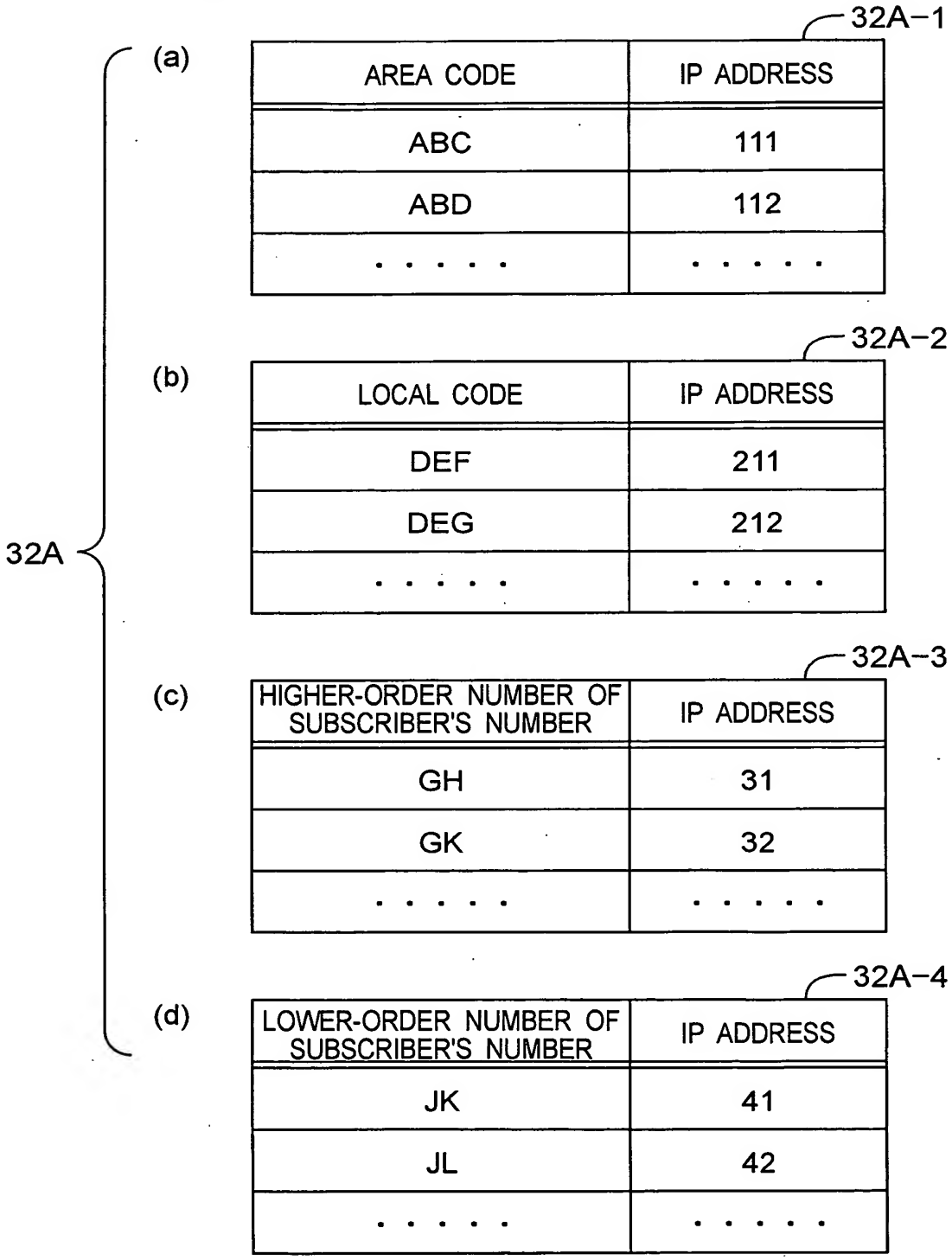

32A
(a)
32A-1
AREA CODE
IP ADDRESS
ABC
111
ABD
112
(b)
32A-2
LOCAL CODE
IP ADDRESS
DEF
211
DEG
212
(c)
32A-3
HIGHER-ORDER NUMBER OF SUBSCRIBER'S NUMBER
IP ADDRESS
GH
31
GK
32
(d)
32A-4
LOWER-ORDER NUMBER OF SUBSCRIBER'S NUMBER
IP ADDRESS
JK
41
JL
42

Fig.12

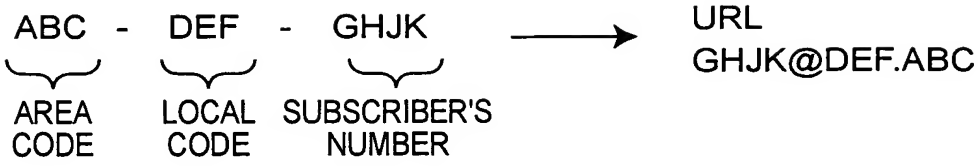

ABC - DEF - GHJK
AREA CODE
LOCAL CODE
SUBSCRIBER'S NUMBER
URL
GHJK@DEF.ABC

Fig.13

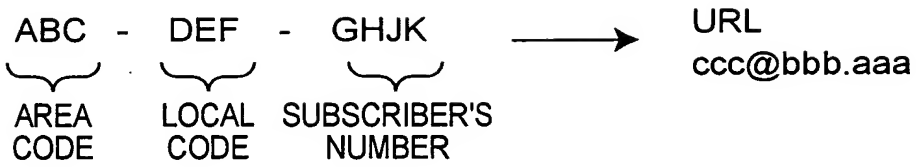
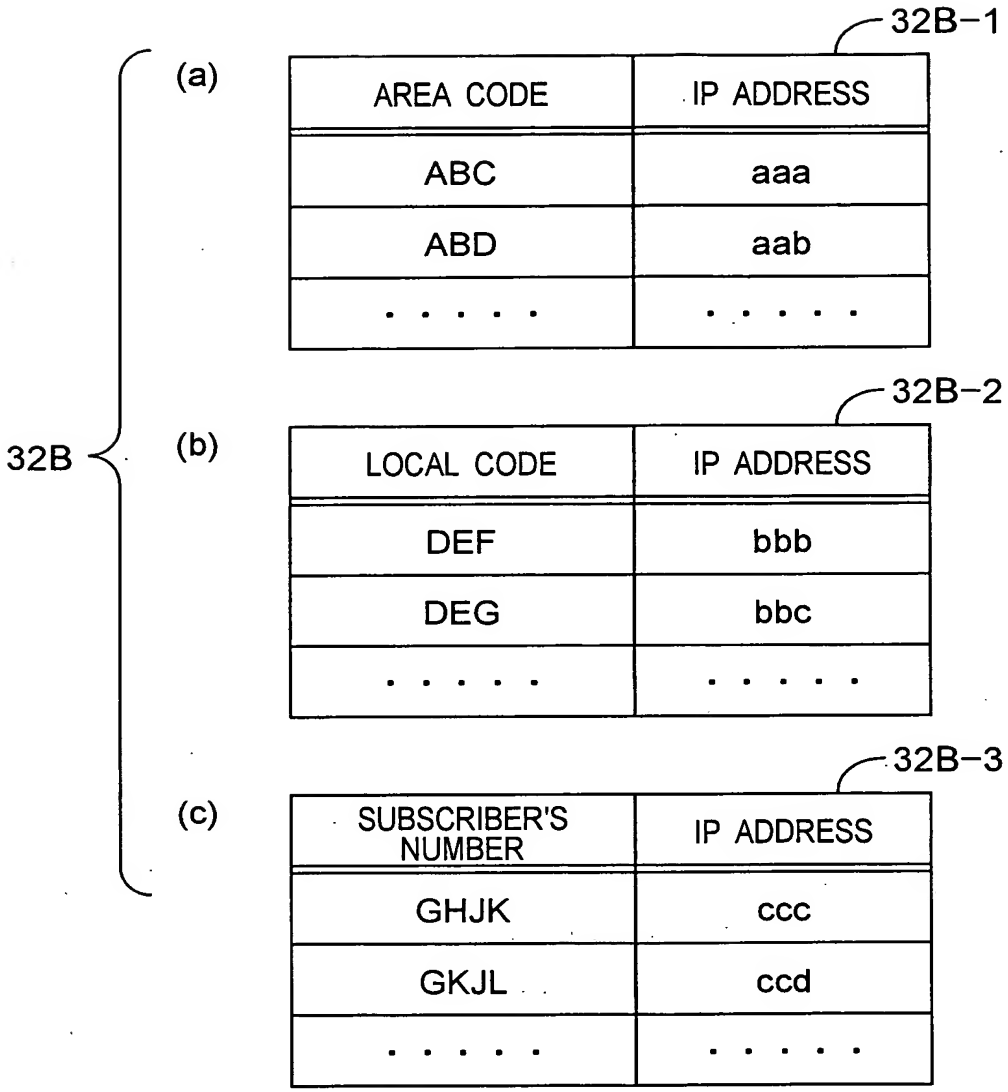

ABC - DEF - GHJK
AREA CODE
LOCAL CODE
SUBSCRIBER'S NUMBER
URL
ccc@bbb.aaa

Fig.14


32B
(a)
32B-1
AREA CODE
IP ADDRESS
ABC
aaa
ABD
aab
(b)
32B-2
LOCAL CODE
IP ADDRESS
DEF
bbb
DEG
bbc
(c)
32B-3
SUBSCRIBER'S NUMBER
IP ADDRESS
GHJK
ccc
GKJL
ccd

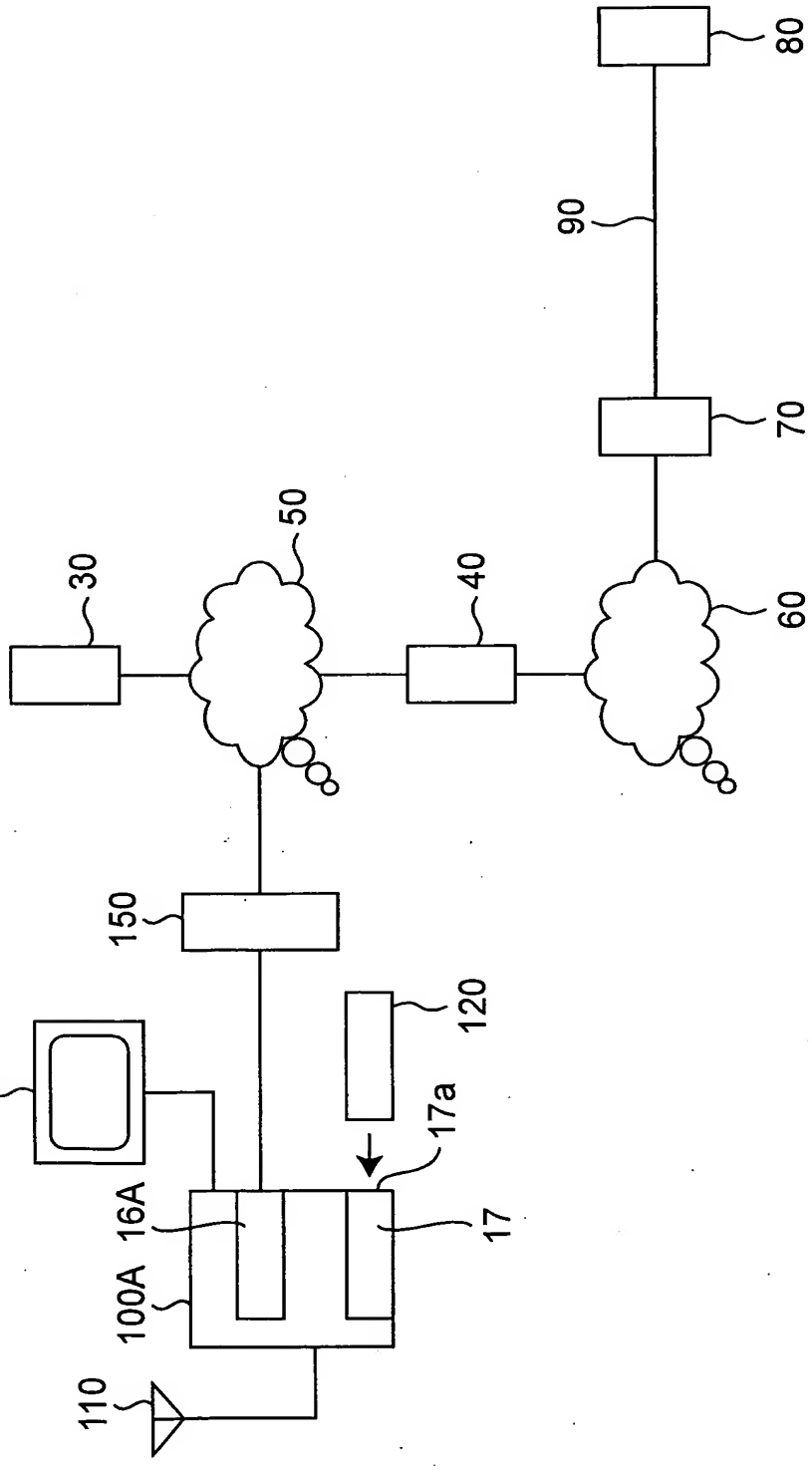
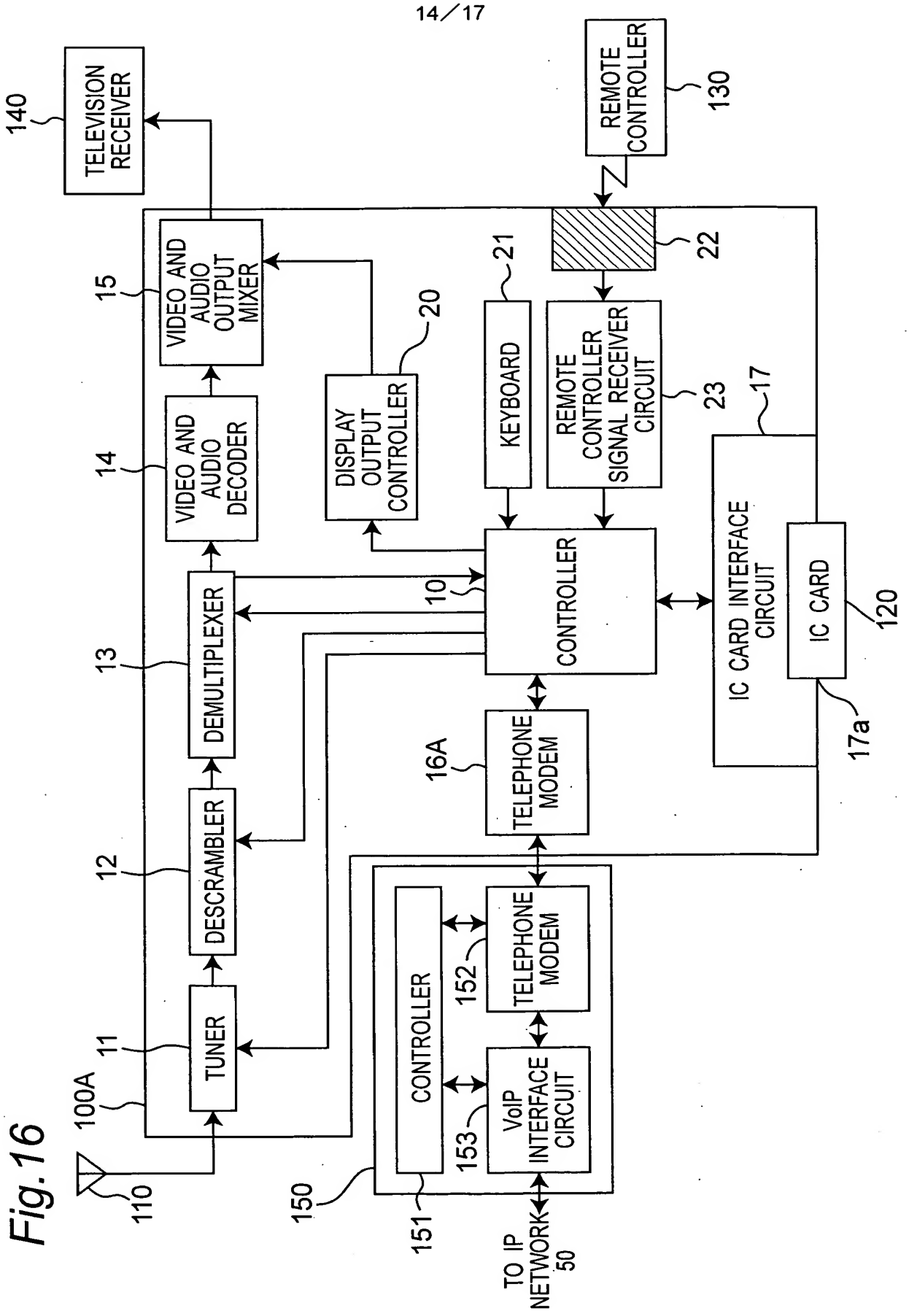


Fig.15


TELEVISION RECEIVER
140
REMOTE CONTROLLER
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VIDEO AND AUDIO OUTPUT MIXER
15
22
21
KEYBOARD
20
DISPLAY OUTPUT CONTROLLER
REMOTE CONTROLLER SIGNAL RECEIVER CIRCUIT
23
17
VIDEO AND AUDIO DECODER
14
IC CARD INTERFACE CIRCUIT
IC CARD
120
DEMULTIPLEXER
13
10
CONTROLLER
16A
TELEPHONE MODEM
17a
DESCRAMBLER
12
TUNER
11
100A
CONTROLLER
152
TELEPHONE MODEM
VoIP INTERFACE CIRCUIT
153
110
150
151
TO IP NETWORK 50

Fig.16

Fig. 17

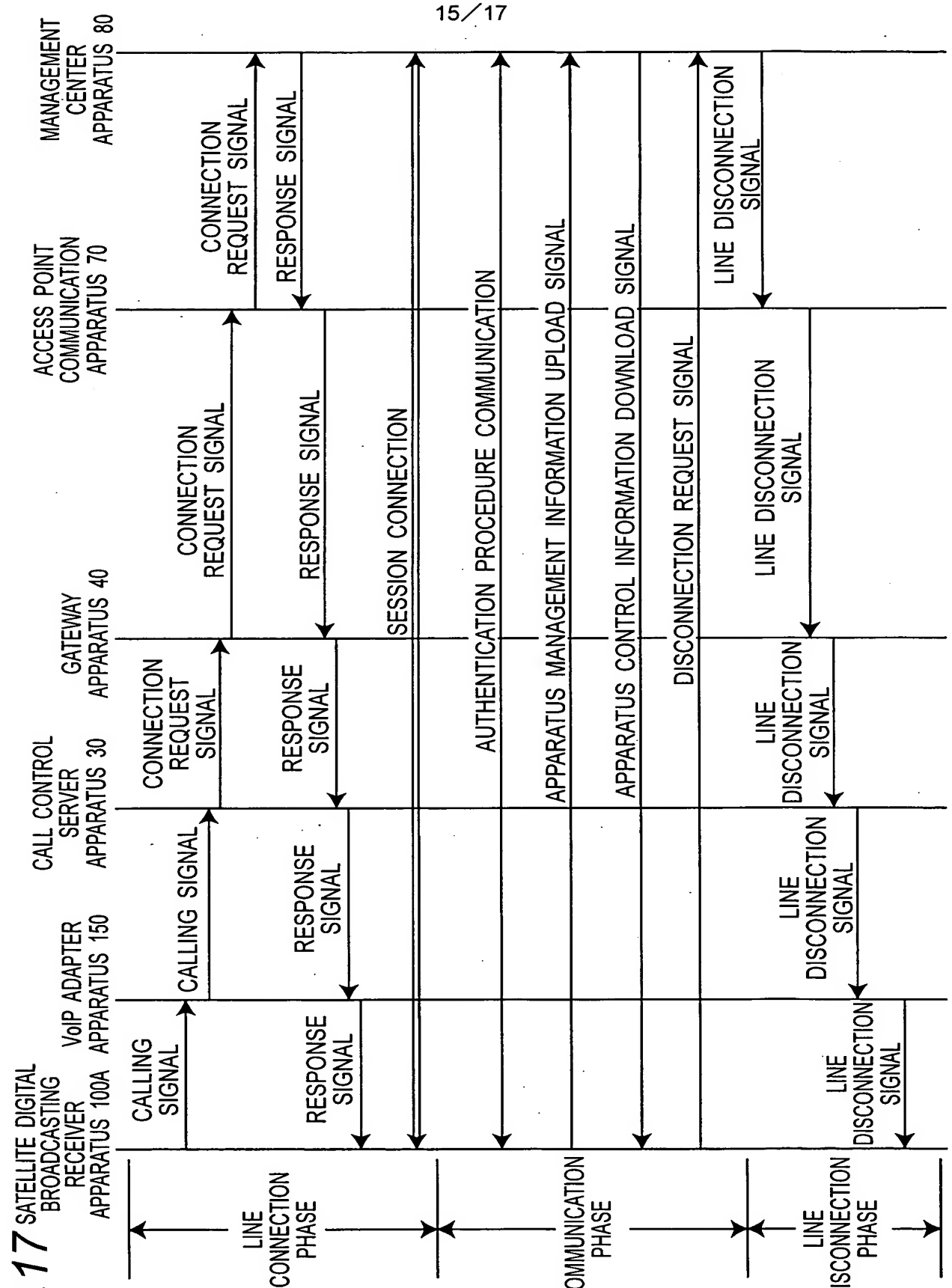
SATELLITE DIGITAL BROADCASTING RECEIVER APPARATUS 100A
VoIP ADAPTER APPARATUS 150
CALL CONTROL SERVER APPARATUS 30
GATEWAY APPARATUS 40
ACCESS POINT COMMUNICATION APPARATUS 70
MANAGEMENT CENTER APPARATUS 80
CALLING SIGNAL
CALLING SIGNAL
CONNECTION REQUEST SIGNAL
CONNECTION REQUEST SIGNAL
CONNECTION REQUEST SIGNAL
RESPONSE SIGNAL
RESPONSE SIGNAL
RESPONSE SIGNAL
RESPONSE SIGNAL
SESSION CONNECTION
AUTHENTICATION PROCEDURE COMMUNICATION
APPARATUS MANAGEMENT INFORMATION UPLOAD SIGNAL
APPARATUS CONTROL INFORMATION DOWNLOAD SIGNAL
DISCONNECTION REQUEST SIGNAL
LINE DISCONNECTION SIGNAL
LINE DISCONNECTION SIGNAL
LINE DISCONNECTION SIGNAL
LINE DISCONNECTION SIGNAL
LINE DISCONNECTION SIGNAL
LINE CONNECTION PHASE
COMMUNICATION PHASE
LINE DISCONNECTION PHASE

Fig.18

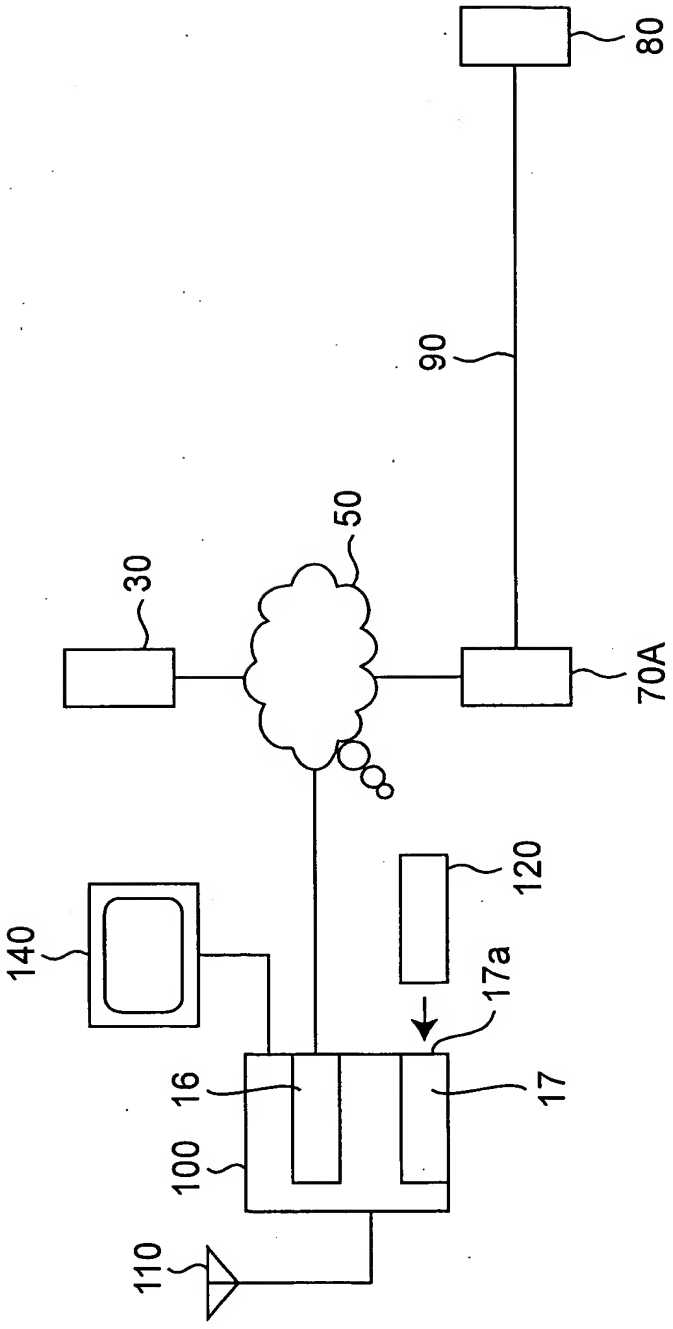
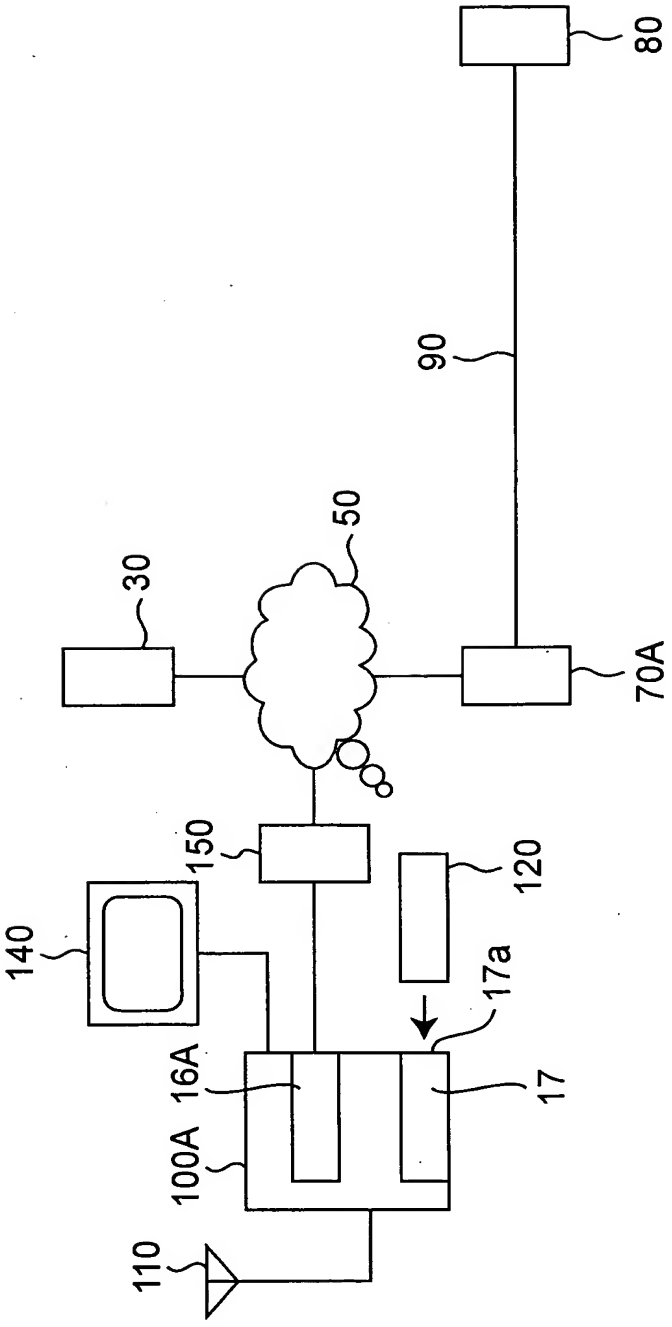
Fig.19